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10/791,605

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EXAMINER

MILLER, ALAN S

ART UNIT

PAPER NUMBER

3624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/791,605	Applicant(s) CHAO ET AL.	
	Examiner ALAN MILLER	Art Unit 3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the application filed 3/1/2004 xxx.

Claims 1-9 are pending and have been examined, claims 10- 19 have been withdrawn.

Election/Restrictions

2. Claims 10-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/2/2008.

Request for Information

3. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

Examiner has reviewed the claims and would like to know where, specifically, the mathematical equation presented in claims 5, 8 and 9 came from. Specifically, Examiner requests that the Applicant provide references to textbook(s), publication(s), etc. where the equation of claims 5, 8 and 9 can be found. If the equations are derived from existing equations, Examiner would like to know where the existing equations can be found.

The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first

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communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97

Claim Objections

4. Claim 8 is objected to because of the following informalities: Claim 8 recites the limitation “generating the plurality of associated recovery trend parameters by adding at least one multiple of a constant factor to the baseline recovery trend parameter; and generating the plurality of associated recovery trend parameters by adding at least one multiple of a constant factor to the baseline recovery trend parameter”. It is unclear if this is meant that the same step is performed twice. It appears that the generating step was duplicated by mistake. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is a method with a single act of using. Methods are a series of acts to do something, so it is not sufficiently clear how a single step is a method. Claims 2 – 9 are rejected as being dependent from 1. Clarification is required.

Claim 6 discloses wherein the recovery trend parameter equals a number of recovery days divided by a number of remaining days plus the number of recovery days. However, it is unclear if this claimed equation is the recovery days divided by the number of remaining days, then that product is summed with the number of recovery days, or if the equation is the number of recovery days divided by the sum of the number or remaining days plus the number of recovery days. For purposes of examination, Examiner will interpret the equation as the equation is the number of recovery days divided by the sum of the number or remaining days plus the number of recovery days, as supported by the specification in paragraph 0017.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims **1-9** are rejected under 35 U.S.C. 101 based on Supreme Court precedent, and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)).

An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the

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subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Here, in claim 1, applicant's method step, using, fails the first prong of the new Federal Circuit decision since they are not tied to another statutory class and can be preformed without the use of a particular apparatus. Thus, claims 1-9 are non-statutory since they may be preformed within the human mind.

Claims 1 – 9 fail to satisfy the requirements for statutory subject matter eligibility because they are considered to be drawn merely to a method of producing a disembodied data structure. It has been held that such claims are considered to comprise non-statutory subject matter, for merely manipulating an abstract idea without producing any “useful, concrete, and tangible result.” (*In re Warmerdam*, 33 F.3d 1354; 31 USPQ2d 1754 (Fed. Cir. 1994). See MPEP § 2106(IV)).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims **1-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shipman (U.S. 5,819,232).

10. In respect to claim 1, Shipman discloses using previously determined fabrication performance data to develop a recovery trend parameter, (FIG 1; column 6, lines 50-68 through column 7, lines 1-4; FIG. 3A – 3E, wherein Shipman discloses a weighting factor F using historical data (i.e. *using previously determined fabrication performance data to develop a recovery trend parameter*); column 3, lines 5-10, wherein Shipman discloses a manufacturing process).

In regards to the claimed limitation “wherein the recovery trend parameter operates to modify pre-defined efficiency value of the fabrication facility to generate an accurate push out date for fabricated products fabricated within the fabrication facility”, it has been held that a “wherein” statement which merely recites the result of performing the step of using predetermined performance data to develop a recovery trend parameter in claim 1, and it has been held that a clause in a method is not given weight when it simply expresses the intended result of a process step positively recited ((*Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)). Also, a wherein clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim ((*Texas Instruments Inc. v. International Trade Commission* 26, USPQ2d 1010 (Fed. Cir. 1993); *Griffin v. Bertina*, 62 USPQ2d 1431 (Fed. Cir. 2002); *Amazon.com Inc. v. Barnesandnoble.com Inc.*, 57 USPQ2d 1747 (CAFC 2001)). Therefore, the claimed “wherein” clause does not differentiate the claim from the prior art.

Further, Shipman discloses the weighting factor F (i.e. *recovery trend parameter*) operates to modify the Mean Average Deviation (i.e. *pre-defined efficiency value of the fabrication facility*) (see at least FIG. 3B).

11. In respect to claim 2, Shipman discloses wherein the recovery trend parameter is dynamic (see at least column 6, lines 50-68 through column 7, lines 1-4; FIG. 3A – 3E).

12. In respect to claim 3, Shipman discloses wherein the pre-defined efficiency value of the fabrication facility is a turn rate, wherein the turn rate equals a ratio of actual products to forecasted products fabricated within the fabrication facility (see at least column 6, lines 55-64, wherein Shipman discloses mean average deviation (MAD) (*i.e. turn rate*) is determined by taking the difference between the forecast for each interval in the first history period and the actual shipping data for each interval, adding the absolute values of these differences then dividing the sum of these differences by the sum of the actual shipments (*i.e. a ratio of actual products to forecasted products fabricated*)); FIG. 3B).

13. In respect to claim 4, Shipman discloses the method to be implemented by a manufacturing process (see at least column 1, lines 4-10 and column 3, lines 4-7).

Shipman does not explicitly disclose wherein the fabrication facility is a wafer fabrication facility, and wherein the products fabricated are wafers disposed within a plurality of wafer lots.

Examiner notes that it is old and well known that wafer fabrication facilities are manufacturing facilities.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in the manufacturing facilities disclosed by Shipman, a wafer fabrication

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facility since a wafer fabrication facility is a type of manufacturing facility and since the type of facility in which the process is intended to be used does not functionally affect the steps of using.

14. In respect to claim 5, Shipman discloses determining the historical weighting factor (i.e. recovery trend parameter) by determining an initial value of F, using that value of F and shipping data in a second history period to determine a forecast for each interval in the first history period is calculated. The difference between the forecast for each interval of the first history period and the actual shipping data for each interval of the first history period is calculated. The percent mean averaged deviation (MAD) is determined by adding the absolute values of these differences then dividing the sum of these differences the sum of the actual shipments for the first history period and multiplying by 100. The value of MAD is compared to the previous value of MAD. If the current value of MAD is smaller than the previous value, F is increased by a small amount. For example, F may be increased by 0.01. Steps 6-13 are repeated until the lowest value of MAD is determined. The value of F that gives the lowest value of MAD is selected as the optimized, historical weighting factor shown in step 14 of FIG. 3C. (see at least column 6, lines 50-68 through column 7, lines 1-4, FIG. 3A-FIG. 3C)

Shipman does not explicitly disclose wherein the recovery trend parameter equals a number of recovery days divided by a number of remaining days plus the number of recovery days, wherein the recovery days are a number of additional days needed to process a lot beyond an originally forecasted shipping date, and wherein the remaining days are the number of days between a current date of processing a lot within an order and an originally forecasted shipping date.

However, it would have been obvious to one of ordinary skill to substitute one weighting factor (*i.e. recovery trend parameter*) with any other weighting factor since it has been held that express suggestion to substitute one equivalent technique for another need not be present to render such substitution obvious (*In re Fout*, 213 USPQ 532 (CCPA 1982), *In re Siebentritt*, 152 USPQ 618 (CCPA 1967)).

15. In respect to claim 6, Shipman further discloses determining a baseline recovery trend parameter (see at least FIG 3A, column 6, lines 50-57, wherein Shipman discloses a initial weighting factor F (*i.e. determining a baseline recovery trend parameter*)).

16. In respect to claim 7, Shipman discloses wherein the baseline recovery trend parameter is used to determine a plurality of associated recovery trend parameters (see at least column 6, lines 50-68 through column 7, lines 1-4, FIG. 3A-FIG. 3C, wherein Shipman discloses the value of MAD is compared to the previous value of MAD. If the current value of MAD is smaller than the previous value, F is increased by a small amount. For example, F may be increased by 0.01 (*i.e. determining a plurality of associated weighting factors (i.e. recovery trend parameters)*). Steps 6-13 are repeated until the lowest value of MAD is determined. The value of F that gives the lowest value of MAD is selected as the optimized, historical weighting factor shown in step 14 of FIG. 3C.).

17. In respect to claim 8, Shipman further discloses generating the plurality of associated recovery trend parameters by adding at least one multiple of a constant factor to the baseline

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recovery trend parameter (see at least column 6, line 68 through column 7, lines 1-4, wherein Shipman discloses generating a plurality of weighting factors (*i.e. associated recovery trend parameters*) by adding .0.01 (*i.e. least one multiple of a constant factor*) to the initial weighting factor (*i.e. baseline recovery trend parameter*). Shipman further discloses steps are repeated).

18. In respect to claim 9, Shipman discloses generating a plurality of weighting factors (*i.e. associated recovery trend parameters*) by adding 0.01 to the initial weighting factor (*i.e. baseline recovery trend parameter*).

Shipman does not explicitly disclose generating a plurality of recovery trend parameters from a previous date by adjusting the baseline recovery trend parameter by a sigma variation.

Examiner notes that standard deviation or sigma variations are old and well known (see at least Shipman, column 8, lines 34-38, wherein Shipman discloses standard deviations).

It would have been obvious to one of ordinary skill in the art to substitute the generating of a plurality of weighting factors by adding 0.01 to the initial weighting factor with adjusting by a standard deviation (*i.e. sigma variation*) since standard deviations are old and well known and factor since it has been held that express suggestion to substitute one equivalent technique for another need not be present to render such substitution obvious (*In re Fout*, 213 USPQ 532 (CCPA 1982), *In re Siebentritt*, 152 USPQ 618 (CCPA 1967)).

Conclusion

19. The prior art made of record and not relied upon considered pertinent to Applicant's disclosure.

- a. Huang et al. (U.S. Patent 5,953,707) discloses using standard deviation in the management of a supply chain.
- b. Jenkins et al. (U.S. Patent Pub. 2002/0188499) discloses using a standard deviation in calculating of statistical safety stock.
- c. Chin et al. (U.S. Patent 5,818,716) discloses turn rates and a wherein a fabrication facility is a wafer fabrication facility.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN MILLER whose telephone number is (571)270-5288. The examiner can normally be reached on Mon - Thur, 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BRADLEY BAYAT can be reached on (571) 272-6704. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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